

EFFECTIVE KNOWLEDGE MANAGEMENT PRACTICES FOLLOWED IN THE SMALL AND MEDIUM ENTERPRISES IN MANUFACTURING SECTOR OF INDIA

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ABSTRACT

With the rise in the competition there is an increase in the demand for the knowledge management practice in the SMEs in India. Through the knowledge management most of the organizations are aiming to improve the performance of the organization which will help them to sustain their growth rate and profits in these times of financial fluctuations in the world economy and the times of high competition both nationally and internationally. Though many research studies have been conducted on the implementation of the knowledge management practices in the educational institutions very few researches have been done on the implementation and effectiveness of knowledge management practices in the organizations particularly in case of SMEs. This research study aims to fulfill this research gap and will analyze the effectiveness of the knowledge management practices that are followed in the SMEs in India. For this purpose, the researcher has collected responses from the several respondents working in an SME in India and have analyzed the responses provided by the respondents using the Chi-Square test in order to determine whether the knowledge management practices that are followed in SMEs in India are effective or not.

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INTRODUCTION

Knowledge management is a major concept in the business due to the fact that businesses go through the unstable phases especially in the knowledge-driven economy.

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Knowledge management cannot be understood easily by its definition, as it is related to several elements. The intricacies and effects of knowledge management have been changing, based on the fact that how much of the knowledge management is followed and practiced in the business. In the small and medium manufacturing industry, knowledge can be gained from various sources including owners, supervisors, production managers, vendors, customers, workers, consultants, conferences, etc. (Alavi and Leidner 2001). In the recent time, the small and medium manufacturing industry also gains knowledge from the social media, as it is the most common and easy accessible platforms for gaining the knowledge in an efficient manner. Moreover, the sources of gaining knowledge include various knowledge portals knowledge forums, case studies, books, research papers, etc.

The role of knowledge management in the business strategy is enormous, and it becomes one of the major weapons for the small and medium enterprises to obtain success in the competitive market. By analyzing the study based on the country's manufacturing competitiveness index ranking, it can be showed that India ranked 4th amongst 38 countries (Rubenstein-Montano *et al.* 2001). It is expected that India will rank 2nd by the next 5 years. The talent-driven innovation has the highest index rating and ranks in the 1st position amongst ten evaluated global drivers of manufacturing competitiveness index ranking. There are two subcomponents of talent driver innovation. The first sub-component includes availability & quality of researchers, scientist & engineers. On the other hand, the second subcomponent includes availability and quality of the skilled labor. Hence, it is pretty evident that the knowledge management will play a major role in obtaining India towards being a global manufacturing leader.

In literature review section, the researcher has identified different activities executed in the field of knowledge management with respect to Indian manufacturing SMEs. On the other hand, the research methodology has been conducted based on the qualitative and quantitative analysis. Statistical analysis has been executed based on the accumulated data from the selected respondents.

1.1 Objectives of the Study

Considering the need of the research, the researcher has developed the objectives of the research. The research objectives indeed facilitate the researcher in analyzing the research topic in a systematic manner. The researcher has set these following objectives in order to analysis the research topic.

- To identify the driving factors of knowledge management in context of India
- To analysis the beneficial aspects of knowledge management in India's manufacturing small and medium enterprises
- To evaluate the relevant issues in knowledge management in Indian manufacturing SMEs
- To recommend appropriate strategies for enhancing the knowledge management process

1.2 Hypothesis of the Study (50 words)

The researcher has developed positive (H_1) and the null hypothesis (H_0) for analyzing this research topic. The researcher has developed following hypotheses.

- **H₀:** Knowledge management does not play a major role in the growth of small and medium manufacturing industries of India
- **H₁:** Knowledge management plays a major role in the growth of small and medium manufacturing industries of India

1.3 Literature Review

1.3.1 The Concept of Knowledge Management

Knowledge management process includes different activities such as sharing, creating, managing and using the information as well as knowledge of the business. It indicates the multidisciplinary approach in order to achieve the organizational objectives. By utilizing the knowledge, organizations can achieve their goals and objectives in an efficient manner. By involving the knowledge management program, organizations obtain several beneficial aspects including enhanced organizational performance, gaining competitive advantages, innovation, integration and continuous business enhancement. Rubenstein-Montano *et al.* (2001) have described the knowledge management as an enabler of organizational learning. In organizations, knowledge management program acts as a strategic asset encouraging the way of sharing knowledge in the business.

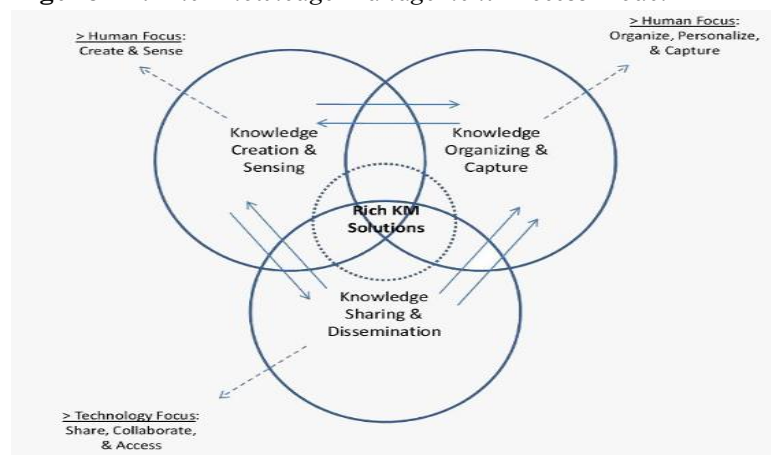
Small and medium enterprises have resources dedicated to the internal knowledge management efforts. In SMEs and other organizations, knowledge management program is considered as a part of their business strategy, which facilitates them in achieving the goals and objectives of the business. It is also a part of the IT or human resource management departments. Small and medium enterprises follow different strategies for managing knowledge in the business. Amongst different knowledge management strategies, organizations utilize the push and pull strategy. Other KM strategies utilized by the SMEs include knowledge sharing, cross-project learning, knowledge mapping, expert systems, collaborative software, etc.

1.4 Models of Knowledge Management

The Knowledge Management Process Model:

This particular model provides a realistic overview of the knowledge management process. Three different categories interact as well as overlap with one another. The focus of this model is on the managerial initiatives. However, in this model, the strategic focus is misplaced. This model of knowledge management indeed facilitates in creating new knowledge as an explicit KM

Figure – 1: The Knowledge Management Process Model



Source: Botha, Kourie and Snyman 2014

initiative (Botha, Kourie and Snyman 2014). The model identifies the people oriented category and technology based category amongst categories. The three categories of knowledge management process include knowledge creation and sensing, knowledge

sharing and dissemination and knowledge organizing and capture. It is a debatable subject whether or not the knowledge sharing process should be technology based.

1.5 Knowledge Management Matrix

This particular knowledge management model provides a general theoretical framework and explicit guideline for the implementation. According to this model, the knowledge management process is divided into four different stages including sense, organize, socialize and internalize (Gamble and Blackwell 2001). First, the management of the organization needs to locate the basis of knowledge in an efficient

Figure – 2: KM Matrix

Type Approach	Embodied	Represented	Embedded
Sense	Observe	Gather	Hypothesize
Organize	Contextualize	Categorize	Map
Socialize	Share	Disseminate	Simulate
Internalize	Apply, Decide, Act		

Source: Gamble and Blackwell 2001

manner. Next, they should organize the knowledge along with the assessment of organizational strengths and weaknesses and determine its reusability as well as relevance. In socialization, various techniques are employed for facilitating share as well as distribute it to the individual seeking its need in the organization. At the final process, the knowledge is internalized through the utilization. This model provides an excellent overview of the roles of knowledge management managers. However, this model has a limitation regarding its focus. First, the entire strategic role sketched by the author is not incorporated. On the other hand, this model is limited to the knowledge sharing, and it avoids the knowledge acquisition process. Small and medium enterprises of India often use this model in order to share the knowledge with the employees. Basically, this model is adopted by the firms having experienced employees, as the knowledge acquisition is not the major priority of the firm.

1.6 Issues of KM practice:

There are several barriers to the knowledge management practice. Pillania (2008) has identified that the organizations face knowledge sharing barrier. However, a large number of barriers are concerned with the people issues including trust, internal resistance, fear of exploitation and skepticism over thinking. It is imperative for the organizations to secure the sensitive information in an efficient manner. Providing proper security for the knowledge management process becomes a difficult situation for the organization. Another major issue for the small and medium enterprises is to enable advanced technology. Technological advancement has brought a new era for the global traders. For dispensing knowledge among employees in an effective method, the organization needs to engage advanced technology. Consequently, it enhances the cost of the business, which often creates intricacies for the small industries in the market.

Besides this, the most common issue of the knowledge management process indicates the lack of knowledge sharing culture (Laforet and Tann 2006). Knowledge sharing process is one of the major criteria for obtaining success in the business. If employees do not share the accumulated knowledge with other employees, then it becomes difficult for the business to achieve success in the global market. Employees of small and medium organizations have a tendency of sharing knowledge to others associated in the business. However, the multinational organizations have faced this issue, as the internal competition among employees is huge. Another common issue regarding knowledge management is gaps in the knowledge base. In most of the cases, employees do not share their knowledge gap with the higher management, which becomes a serious issue for the entire KM program.

METHODOLOGY

In this research, the researcher has employed both qualitative as well as quantitative analysis. The quantitative analysis has provided a large amount of data about the research topic, whereas the qualitative analysis has allowed the researcher in identifying the in-depth overview of the knowledge management following in India's SMEs manufacturing. The researcher has utilized probability sampling technique or random sampling in order to identify the respondents for quantitative analysis (Kothari 2004). On the other hand, non-probability or explicit sampling technique has been employed for evaluating the participants for the qualitative analysis. For qualitative analysis, non-probability sampling has been chosen, as the research topic demanded experienced participants who can share in-depth knowledge on KM process followed by SMEs. Besides this, random sampling has reduced bias answer from the respondents (Kumar and Phrommathed 2005).

The data collection process has included structured interview and survey process. For obtaining qualitative data, the structured interview has been followed, whereas the survey method has been opted for accumulating quantitative data. The researcher has selected 50 employees from an organization belonging to the SME manufacturing industry in India. The managers have provided data through the face-to-face interview process, and each participant was provided 25-30 minutes for sharing their knowledge on the topic. On the other hand, employees have participated in the survey process, which has been conducted through an online platform.

RESULTS

For the purpose of this research study, the researcher has created a hypothesis, which is stated as follows:

- (i) **Null hypothesis (H₀):** The knowledge management practices that are followed in SMEs in India are effective.
- (ii) **Alternate Hypothesis (H₁):** The knowledge management practices that are followed in India are not effective.

In order to prove the null hypothesis correct, the researcher had asked several questions to the respondents which were divided into three parts depending upon the three categories of the knowledge management i.e. knowledge creation and sensing, knowledge sharing and

dissemination and knowledge organizing and capture. For the purpose of the data the researcher has utilized the Chi-square test which will help to analyze the relationship between the effectiveness of the organization's performance and the different categories of the knowledge management which are generally followed in the SMEs. In case the relationship is significant then it can be concluded that the knowledge management practices that are followed in the organization are effective.

Part I: In this part the respondents were asked whether knowledge creation and sensing is done in their organization and does it makes their organization effective. Below table shows the Chi-Square test on the responses that is provided by the respondents.

Table – 1: *Chi-square Test*

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Responses * Effective	50	100.0%	0	0.0%	50	100.0%

Statistic	Value	df	Asymp. Sig.	Exact Sig.	Exact Sig.
			(2-tailed)	(2-tailed)	(1-tailed)
Pearson Chi-Square	31.75	1	.000		
Likelihood Ratio	31.42	1	.000		
Fisher's Exact Test				.000	.000
Continuity	27.73	1	.000		
Correction					
Linear-by-Linear	31.11	1	.000		
Association					
N of Valid Cases	50				

Part II: In this part the respondents were asked whether knowledge sharing and dissemination is done in their organization and does it makes their organization effective. Below table shows the Chi-Square test on the responses that is provided by the respondents.

Table 2: *Chi-square Test*

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Knowledge_sharing * Effective_organization	50	100.0%	0	0.0%	50	100.0%

Statistic	Value	df	Asymp. Sig.	Exact Sig.	Exact Sig.
			(2-tailed)	(2-tailed)	(1-tailed)
Pearson Chi-Square	10.75	1	.001		
Likelihood Ratio	8.79	1	.003		

Fisher's Exact Test				.005	.005
Continuity	7.82	1	.005		
Correction					
Linear-by-Linear	10.54	1	.001		
Association					
N of Valid Cases	50				

Part III: In this part the respondents were asked whether knowledge organizing and capture is done in their organization and does it makes their organization effective. Below table shows the Chi-Square test on the responses that is provided by the respondents.

Table 3: *Chi-square Test*

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Knowledge_Organizing * Effective_performance	50	100.0%	0	0.0%	50	100.0%

Statistic	Value	df	Asymp. Sig.	Exact Sig.	Exact Sig.
			(2-tailed)	(2-tailed)	(1-tailed)
Pearson Chi-Square	16.02	1	.000		
Likelihood Ratio	16.33	1	.000		
Fisher's Exact Test				.000	.000
Continuity	13.65	1	.000		
Correction					
Linear-by-Linear	15.70	1	.000		
Association					
N of Valid Cases	50				

DISCUSSION

In the above given analysis it can be seen that in case of the Part I, when the researcher asked the respondents whether knowledge creation and sensing is done in their organization and whether it makes the organization's performance effective almost 76% of the respondents said that in their organization knowledge creation and sensing is done. On determining the significance of relationship between the knowledge creation and sensing in the organization and the effectiveness of the performance of the organization it was found that Pearson's coefficient value is .000 which is less than the significance value of $p=0.05$. Thus, it can be said that there is significant statistical relationship between the knowledge creation and sensing and organization's effectiveness. Similarly, in case of the Part II, when the researcher asked the respondents whether knowledge sharing and dissemination is done in their organization and whether it makes the organization's performance effective almost 84% of the respondents said that in their organization

knowledge sharing and dissemination is done. On determining the significance of relationship between the knowledge sharing and dissemination in the organization and the effectiveness of the performance of the organization it was found that Pearson's coefficient value is .001 which is less than the significance value of $p=0.05$. Thus, it can be said that there is significant statistical relationship between the knowledge sharing and dissemination and organization's effectiveness. Finally, in case of Part III, when the researcher asked the respondents whether knowledge organizing and capture is done in their organization and whether it makes the organization's performance effective almost 66% of the respondents said that in their organization knowledge organizing and capture is done. On determining the significance of relationship between the knowledge organizing and capture in the organization and the effectiveness of the performance of the organization it was found that Pearson's coefficient value is .000 which is less than the significance value of $p=0.05$. Thus, it can be said that there is significant statistical relationship between the knowledge organizing and capture and organization's effectiveness.

Hence from the analysis it can be said that null hypothesis (H_0) could not be rejected and thus it can be stated that the knowledge management practices that are followed in SMEs in India are effective.

CONCLUSION

In case of the SMEs knowledge management has become an important factor for them to remain in the competition and sustain their profits. Through the Knowledge management practices, it is possible for the organization to update their technical capabilities so that they are able to harness their knowledge for sustaining the business. From the research study it could be seen that when the researcher asked about the implementation of the different categories of the knowledge management most of the respondents replied that all the three categories were implemented in the organization and all these categories have been effective in improving the performance of the organization. Thus, it could be concluded that from the analysis of the data it was found that the knowledge management practices that are followed in the organization are effective in nature.

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